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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

DEAN, JR, JOSEPH E

ART UNIT

PAPER NUMBER

2617

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/577,670	Applicant(s) CHEN ET AL.	
	Examiner JOSEPH DEAN, JR	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant amended claims 12 and 20-22.
2. Claims 1-11 were cancelled on a previous amendment.
3. Status of claims:

Claims 12-22 are pending.

Continued Examination Under 37 CFR 1.114

4. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/16/09 has been entered.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claim 22 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claim is not to a process, machine, manufacture or composition of matter: In the state of the art, transitory signals are commonplace as a medium for transmitting computer instructions. In the absence of any evidence to the contrary (paragraph 30 of the specification is the only evidence the examiner finds referencing the computer readable medium specifically) and given the broadest reasonable interpretation, the scope of the claimed

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"computer readable medium" covers a signal per se. A transitory signal does not fall within the definition of a process, machine, manufacture, or composition of matter.

Claim Objections

7. Claim 14 is objected to because of the following informalities: Misspelled word in last limitation where it states learning at the terminal.....radio access point learns about the failure...etc. **replace learns with learns**. Appropriate correction is required.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 12-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cromer et al. (US20030156558) (hereinafter Cromer) and Raji US20040219878.

Per claim 12, Cromer discloses a method for operating a radio communication system with a radio access point and a plurality of radio stations including a terminal radio station located outside of direct radio transmission range of the radio access point (0021), the radio access point requiring path information about a path formed of at least one further radio station of the plurality of radio stations usable for *message* transfer between the radio access point and the terminal radio station (paragraph 0021, **i.e. remote mobile unit**), but fails to explicitly learning, at the terminal radio station about a requirement for the path information that was

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initiated at the radio access point, and initiating at the terminal radio station a method for determining a path between the terminal radio station and the radio access point to fulfill the requirement initiated by the radio access point.

However, Raji discloses learning at the terminal radio station about a requirement for the path information that was initiated at the radio access point (paragraph 0060, **i.e. responding by informing computing systems of possible paths**), initiating at the terminal radio station a method for determining a path between the terminal radio station and the radio access point to fulfill the requirement initiated by the radio access point (paragraph 0060, **i.e. informing proximate wireless system or source wireless device about possible paths that may have initiated broadcast process**)

Therefore, one skilled in the art would have found it obvious from the combined teachings of **Cromer**, which provides packet transfer between mobile unit outside AP range and **Raji**, which provides possible paths from terminal station to intermediate or source station, as a whole to produce the invention as claimed with a reasonable expectation of achieving a connection to mobile units outside a cell range and learning of new paths to the source node

Per claim 13, Combination discloses the method as claimed in claim 12, Cromer discloses wherein the radio communication system includes a base station located inside the direct radio transmission range of the radio access point and the terminal radio station is located within a radio coverage area of the base station (paragraph 0021, 0057 and 0058, Fig 3), wherein said method further comprises notifying the base station by the radio access point about the

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requirement for the path information (paragraph 0029), and wherein said learning by the terminal radio station about the requirement for the path information is a result of a notification by the base station (paragraph 0079, **i.e. transmit a probe response**).

Per claim 14, The combination discloses the method as claimed in claim 12, Cromer discloses wherein a known path between the terminal radio station and the radio access point formed of at least one further radio station is known to the terminal radio station and the radio access point (paragraph 0058), enabling data to be transferred from the terminal radio station to the radio access point and from the radio access point to the terminal radio station via the path (paragraph 0032-0039 and 0058) wherein said method further comprises receiving, at the radio access point, failure information about failure of the known path from a radio station of the path (paragraph 0058); initiating, at the terminal radio station, a method for determining a new path between the terminal radio station and the radio access point (paragraph 0058) but fails to discloses learning at the terminal radio station about the failure of the known path after the radio access point learns about the failure.

However, Raji discloses learning at the terminal radio station about the failure of the known path after the radio access point learns about the failure (paragraph 0073).

Therefore, one skilled in the art would have found it obvious from the combined teachings of **Croome**, which provides packet transfer between mobile unit outside AP range and **Raji**, which provides knowledge of dropped and created paths via source/intermediate nodes, as a whole to produce the invention as claimed with a

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reasonable expectation of achieving process of dropping and developing new paths for continued communication.

Per claim 15, the combination discloses the method as claimed in claim 14, wherein Cromer discloses said learning about the failure of the known path at the radio access point results from information received in response to sending data from the radio access point to the terminal radio station (paragraph 0077).

Per claim 16, the combination discloses the method as claimed in claim 15, wherein Cromer discloses said method further comprises sending test data for the radio access point from the terminal radio station to determine whether the failure exists in the known path (paragraph 0077, **i.e. next path stored within the first data structure is attempted to correct problem**).

Per claim 17, the combination discloses the method as claimed in claim 16, wherein Cromer discloses said sending of the test data takes place at regular time intervals (paragraphs 0078-0080 and 0090).

Per claim 18, the combination discloses the method as claimed in claim 16, wherein Cromer said learning about the failure of the known path at the terminal radio station results from said sending of the test data to determine whether the failure exists in the known path (paragraph 0077).

Per claim 19, the combination discloses the method as claimed in claim 18, wherein Cromer discloses said sending of the test data by the terminal radio station to determine whether the failure exists in the known path results from at least one notification sent as a result of a preceding determination of the known path (paragraph 0113).

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Per claim 20, refer to same rationale as explained in claim 12 (multiple nodes can broadcast information as well as listen for notifications when terminal is turned on).

10. Claims 21 and 22 are rejected under 35 U.S.C. 102(a) as being anticipated by Cromer et al. (US20030156558) (hereinafter Cromer).

Per claim 21, Cromer discloses a first radio station for a radio the radio communication system formed of a radio access point and at least one second radio station in addition to the first radio station, the first radio station comprising: means for storing a path between said first radio station and the radio access point (paragraph 0064), where the path is formed of at least one of the second radio stations and is used for transferring information from said first radio station to the radio access point and from the radio access point to said first radio station via the path (paragraphs 0058 and 0064); means for sending test data for the radio access point to determine whether a failure of the path exists (paragraphs 0076 and 0077); means for receiving and processing failure information about presence of a failure of the stored path (paragraph 0077); and means for initiating a method to determine a new path between said first radio station and the radio access point following reception of the failure information (paragraph 0077, Fig 5, **i.e. method of switching to previously stored path, when no path stored, system starts to search for new path by building data structures until AP is in range, therefore options are given to determine or initiate a method to determine path if failure occurs**).

Per claim 22, refer to same rationale as explained in claim 21 (refer to paragraph 0071 for a computer readable medium; also see explanation above for 101 rejection).

Contacts

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSEPH DEAN, JR whose telephone number is (571)270-7116.

The examiner can normally be reached on Monday through Friday 7:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bost Dwayne can be reached on 571-272-7023. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dwayne D. Bost/
Supervisory Patent Examiner,
Art Unit 2617

/JOSEPH DEAN, JR/
Examiner, Art Unit 2617